

IN THE CLAIMS

1. (Currently amended) A semiconductor memory device comprising:
a voltage level detector configured to sense a voltage and configured to generate a power-up signal while the voltage is less than a minimum voltage required to operate the device;
a ready/busy driver controller configured to generate a busy enable signal in response to the power-up signal; and
a ready/busy driver that is responsive to the busy enable signal.
2. (Original) The device of claim 1, further comprising a command register cooperatively coupled to the ready/busy driver controller.
3. (Original) The device of claim 2, wherein the command register comprises:
a program command register configured to provide a program busy signal to the ready/busy driver controller; and
an erase command register configured to provide an erase busy signal to the ready/busy driver controller.
4. (Original) The device of claim 3, wherein the program busy signal indicates that the memory device is in a program mode.
5. (Original) The device of claim 3, wherein the erase busy signal indicates that the memory device is in an erase mode.
6. (Original) The device of claim 1, wherein the ready/busy driver controller comprises:
a control signal generator configured to generate a first and a second control signal in response to the power-up signal; and
a level shifter configured to generate the busy enable signal in response to the first and second control signals.
7. (Original) The device of claim 1, wherein the ready/busy driver comprises:
a ready/busy pin;

an open drain driver configured to set a voltage at the ready/busy pin in response to the busy enable signal; and
a pull up load connected to the ready/busy pin.

8. (Original) The device of claim 7, wherein the memory device is in a busy state during a power-up period when the voltage at the ready/busy pin is at a low state.

9. (Original) The device of claim 8, wherein the memory device is in a ready state after the power-up period.

10. (Cancelled)

11. (Previously presented) A semiconductor memory device comprising:
a voltage level detector configured to generate a power-up signal;
a ready/busy driver controller configured to generate a busy enable signal in response to the power-up signal; and
a ready/busy driver that is responsive to the busy enable signal;
wherein the ready/busy driver controller comprises:
a control signal generator configured to generate a first and a second control signal in response to the power-up signal; and
a level shifter configured to generate the busy enable signal in response to the first and second control signals.

12. (Previously presented) A semiconductor memory device comprising:
a voltage level detector configured to generate a power-up signal;
a ready/busy driver controller configured to generate a busy enable signal in response to the power-up signal; and
a ready/busy driver that is responsive to the busy enable signal;
wherein the ready/busy driver controller comprises:
a ready/busy pin;
an open drain driver configured to set a voltage at the ready/busy pin in response to the busy enable signal; and
a pull up load connected to the ready/busy pin.

13. (Previously presented) The device of claim 12, wherein the memory device is in a busy state during a power-up period when the voltage at the ready/busy pin is at a low state.

14. (Previously presented) The device of claim 13, wherein the memory device is in a ready state after the power-up period.

15. (New) A semiconductor memory device comprising:
a voltage level detector configured to generate a power-up signal;
a ready/busy driver controller configured to generate a busy enable signal in response to the power-up signal;
a ready/busy driver that is responsive to the busy enable signal; and
a command register cooperatively coupled to the ready/busy driver controller.

16. (New) The device of claim 15, wherein the command register comprises:
a program command register configured to provide a program busy signal to the ready/busy driver controller; and
an erase command register configured to provide an erase busy signal to the ready/busy driver controller.

17. (New) The device of claim 16, wherein the program busy signal indicates that the memory device is in a program mode.

18. (New) The device of claim 16, wherein the erase busy signal indicates that the memory device is in an erase mode.

19. (New) A method of operating a semiconductor memory device, the semiconductor memory device including a voltage level detector, a ready/busy driver controller, a ready/busy driver, and a command register, the method comprising:
- sensing a voltage with the voltage level detector;
generating a power-up signal with the voltage level detector when the voltage is less than a minimum voltage required to operate the semiconductor memory device; and
generating a busy signal with the command register, the busy signal indicative of an operational state of the semiconductor memory device.

20. (New) The method of claim 19, wherein generating a busy signal comprises generating a program busy signal.

21. (New) The method of claim 19, wherein generating a busy signal comprises generating an erase busy signal.

22. (New) The method of claim 19, further comprising generating a busy enable signal with the ready/busy driver controller, the busy enable signal generated when at least one chosen from the group consisting of the power-up signal and the busy signal is at a logic high state.